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Christoph Hauger

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EXAMINER

FINEMAN, LEE A

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/780,375	Applicant(s) HAUGER ET AL.	
	Examiner LEE FINEMAN	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/12/01 & 10/6/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to an amendment filed 3 April 2008 in which claims 16, 18, 20-23, 25 and 27-40 were cancelled and claims 41-52 were added. Claims 41-52 are pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shutter (claim 41) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 41-52 are objected to because of the following informalities:

Regarding claims 41-52, first, the limitation “said data image” lacks antecedent basis. For the purposes of examination, this limitation will be taken to be “said image data” as already detailed in the claims. Second the limitation “a video-recorder/monitor connected to said mixer for receiving said output signal for display to a surgeon” is unclear. Is this element required to be both a video recorder and a monitor or can it be either or is it only a monitor which fulfills the functional language of displaying to a surgeon? For the purposes of examination, “a video-recorder/monitor” will be taken to be only a monitor connected to said mixer for receiving said output signal for display to a surgeon.

Further regarding claims 50 and 51, the limitations “said reflection display” and “the clock ratio” lack antecedent basis

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 41, 44 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi, US 5,601,549 in view of Zonneveld, US 5,889,611.

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Regarding claim 41, Miyagi discloses a surgical microscope (fig. 1) with a viewing unit (at least 15 and 12) for viewing an object (not shown) and defining a viewing beam path (fig. 1); an image data supply (28a-c) for supplying image data (column 2, lines 54-66); an image projection module (11a') connected to said image data supply (via 25) for receiving said image data (column 2, lines 54-66) and inputting said image data into the viewing beam path (fig. 1); said image projection module including an image display unit (30) for displaying the image data; a first beam splitter (16a) mounted in said viewing beam path for receiving said image data displayed by said display unit (30) and passing said image data into the viewing beam path; an image recording module (20 and 25) for recording said data image (from 28a-c) and an object image (from 23) of said object (not shown); said image recording module including an image sensor (23); said image sensor (23) generating an image signal from said object image (column 2, lines 50-53); said image recording device includes a mixer (in 25) connected to said image sensor (23) for receiving said image signal (fig. 1) and being connected to said image supply data (28a-c) for receiving image data supply for receiving said image data (fig. 1) to mix said image signal and said image data and generate an output signal (column 2, lines 50-53); a video-recorder/monitor (30) connected to said mixer (25) for receiving said output signal for display to a surgeon (not shown); a shutter (column 3, lines 63-67) interposed between the first beam splitter (16a) and said object (not shown) to facilitate viewing said image data in said viewing unit (column 3, lines 63-67). Miyagi discloses the claimed invention except for the object image being supplied from by said viewing unit; a second beam splitter mounted in said viewing beam path for directing said object image onto said image sensor. Zonneveld discloses a surgical microscope (fig. 1) with a viewing unit (3) for viewing an object (20) and defining a viewing

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beam path (fig.1); an image projection module (33) for supplying data in the form of a data image (column 6, lines 6-16), including an image display unit (34 and 35) for displaying the image data; and a beam splitter (37 and 38 and column 6, lines 32-65) mounted in said viewing beam path for receiving and passing said data image to said image sensor (40) and for directing said object image being supplied from by said viewing unit (fig. 1) onto said image sensor (column 6, lines 32-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a second beam splitter and image sensor to the system of Miyagi to be able to receive and combine an object image from the viewing path as taught by Zonneveld and provide further flexibility by enabling the user to be able to see patient conditions like heartbeat with every microscopic view.

Regarding claim 44, Miyagi discloses the claimed invention except for wherein said image display unit is an LCD image display unit. Zonneveld further teaches that the image display unit is an LCD image display unit (column 2, lines 35-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the image display unit of Miyagi be an LCD image display unit as taught by Zonneveld as it is a reliable, easy to obtain display commonly used in a microscope system.

Regarding claim 49, Miyagi discloses wherein said image sensor is a CCD chip (column 2, line 47).

5. Claims 47-48 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi in view of Zonneveld as applied to claim 44 and further in view of Ernstoff et al., US 4,090,219 (henceforth Ernstoff).

Miyagi in view of Zonneveld as applied to claim 44 above disclose the claimed invention except for the image display unit including a reflection display and wherein the brightness of said image display unit is increased by a time-dependent sequential illumination of the reflection display with only a single color or a reflection display illuminated sequentially with different colors as a function of time; and wherein said image display unit includes a rotatably mounted filter wheel for illuminating said reflection display; and a device for synchronizing the rotation of said filter wheel to said clock frequency of said reflection display. Ernstoff teaches in fig. 8, a reflection display (310, column 2, lines 57-58) illuminated sequentially with different colors as a function of time (column 8, lines 48-56) or illuminated sequentially with a single color as a function of time (in so far as the wheel can be stopped on a single color and, inherently, if more time is spent on a single color, it will be brighter than compared to a display exposed to sequential RGB illumination), the display is driven at a clock frequency (column 8, lines 65-66) and has a device for synchronizing the rotation of said filter wheel to said clock frequency of said reflection display (322 and 306; Ernstoff). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reflection display of Ernstoff as the display means in the system of Miyagi in view of Zonneveld to be able to provide high resolution and high brightness full color images (Ernstoff, column 2, lines 24-26).

6. Claims 42-43 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi in view of Zonneveld as applied to claims 41 and 44 above and further in view of Arai, US 4,666,261.

Regarding claims 42-43, Miyagi in view of Zonneveld as applied to claims 41 and 44 above further disclose an imaging optic (31) mounted downstream of said image display unit (fig. 1) and being arranged between said image display unit (30) and said beam splitter (16a). Miyagi in view of Zonneveld as applied to claims 41 and 44 above disclose the claimed invention except for the specifics of the imaging optics for projecting the image, i.e., said image projection module including a first and second plano-convex lens, a plano-concave lens, and a concave-convex lens,. Arai teaches a projection lens assembly (embodiment 1) with a first (lens 1) and second (lens 3) plano-convex lens, a plano-concave lens (lens 4), and a concave-convex lens (lens 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the projection lens assembly of Arai in the system of Miyagi in view of Zonneveld to prevent focal variations due to environmental factors (Arai, column 7, lines 34-39).

Regarding claims 45-46, Miyagi in view of Zonneveld and Arai as set forth above disclose the claimed invention except for the ratio of said first focal length and said second focal length being within a range from 1.9 to 2.5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have focal lengths within the claimed ratio, since it is been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to adjust the focal lengths for the purpose of adjusting the size/magnification of the projected image. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

7. Claims 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi in view of Zonneveld and Arai as applied to claim 42 above and further in view of Ernstoff.

Miyagi in view of Zonneveld and Arai as applied to claim 42 above disclose the claimed invention except for the image display unit including a reflection display and wherein said image display unit includes a rotatably mounted filter wheel for illuminating said reflection display; and a device for synchronizing the rotation of said filter wheel to said clock frequency of said reflection display. Ernstoff teaches in fig. 8, a reflection display (310, column 2, lines 57-58) wherein said image display unit includes a rotatably mounted filter wheel (302; Ernstoff) for illuminating said reflection display (fig. 8; Ernstoff); and a device for synchronizing the rotation of said filter wheel to said clock frequency of said reflection display (322 and 306; Ernstoff). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reflection display of Ernstoff as the display means in the system of Miyagi in view of Zonneveld and Arai to be able to provide high resolution and high brightness full color images (Ernstoff, column 2, lines 24-26).

Response to Arguments

8. Applicant's arguments with respect to claims 41-52 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE FINEMAN whose telephone number is (571)272-2313. The examiner can normally be reached on Monday - Friday 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lee Fineman/
Patent Examiner, Art Unit 2872
10 July 2008